

3rd-line therapy, analyzed from a third-party US payer perspective. Efficacy parameters included placebo-adjusted absolute weekly rates of remission and response, taken from MDD treatment trials. Continuation, add-on, switch, and discontinuation rates, and inpatient and outpatient costs, were derived from the PharMetrics database (Jan 2003–Mar 2008). Pharmacy costs were based on Wholesale Acquisition Costs. A budget impact model determined annual health care costs of adding adjunct QTP XR to a formulary assuming a population of 185,000 patients, with 1.2% being treated for MDD. **RESULTS:** Adjunct QTP XR (300 mg/d, but not 150 mg/d) reduced total costs per remitting patient: \$1998 versus adjunct ARP when used in 2nd-line therapy (\$17,168 vs \$19,166) and \$2608 in 3rd-line therapy (\$22,051 vs \$24,659). The main drivers of model outcomes were pharmacy costs and clinical efficacy. Probabilistic sensitivity analyses suggest model outcomes were generally stable to varying assumptions. Increasing QTP XR use from 3.6% to 4.6%, assuming a reduction in the use of other MDD treatments, increased overall health care costs by 0.5% (\$10,851,702–\$10,909,591), with pharmacy costs rising by 2.3% (\$3,006,169–\$3,076,594). **CONCLUSIONS:** QTP XR (300 mg/d) as adjunct therapy, in patients with MDD who previously have had an inadequate response to 1st- or 2nd-line therapy, was cost-effective in achieving remission compared with adjunct ARP (15 mg/d). Increasing QTP XR use as 2nd- or 3rd-line therapy had a limited and well-defined budget impact. Supported by AstraZeneca Pharmaceuticals LP, Wilmington, Delaware.

#### PMH41

##### ECONOMIC EVALUATION OF DESVENLAFAXINE IN THE ACUTE MANAGEMENT OF INPATIENTS WITH MAJOR DEPRESSIVE DISORDER FROM A BRAZILIAN PUBLIC HOSPITAL PERSPECTIVE

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**OBJECTIVES:** In 2009, 8,211 hospitalizations for major depressive disorder (MDD) occurred in Brazilian public hospitals, with mean duration of 20.5 days and average cost of 770BRL. To inform decision-makers about more efficient therapeutic strategies, this study aimed to compare costs of desvenlafaxine, escitalopram and duloxetine in the treatment of MDD inpatients from Brazilian public hospital perspective. **METHODS:** A decision tree model was built to assess costs of desvenlafaxine 50 mg/d, escitalopram 10 mg/d and duloxetine 60 mg/d to treat inpatients admitted due to MDD. Four health states were considered: remission, dose escalation due to lack of response, switching to another antidepressant after discontinuation caused by adverse event or failure, and treatment failure. This assessment assumes similar efficacy among alternatives due to lack of head-to-head clinical trials. Cost estimation assumed an 8-week time horizon. Relative risk of dropout versus placebo was obtained through systematic review. Only direct medical costs were considered and the cost components were drug acquisition costs and daily room charges. One-way sensitivity analyses were performed using drug prices, proportion of duloxetine patients requiring drug titration, and daily room charges ( $\pm 20\%$ ) as key variables. **RESULTS:** Desvenlafaxine avoided 12% of estimated dropouts compared to competing alternatives. The estimated treatment costs were 1,955BRL, 2,213BRL and 2,476BRL per patient treated with desvenlafaxine, escitalopram and duloxetine, respectively. Therefore, desvenlafaxine exhibited savings of –257BRL and –520BRL versus escitalopram and duloxetine, respectively. Within sensitivity analyses, the lower saving was observed when duloxetine titration was set as 0% (–94BRL versus escitalopram) and the higher when a +20% variation was applied to daily room charges (–580BRL versus duloxetine). **CONCLUSIONS:** Desvenlafaxine would be a cost-saving strategy compared to escitalopram and duloxetine in the treatment of patients admitted to the hospital due to MDD, given its lower price and lower dropout rates as a consequence of side effects.

#### PMH42

##### ECONOMIC EVALUATION OF DESVENLAFAXINE IN THE ACUTE MANAGEMENT OF ASSOCIATED MAJOR DEPRESSIVE DISORDER IN MEDICALLY ILL INPATIENTS FROM A BRAZILIAN PUBLIC GENERAL HOSPITAL PERSPECTIVE

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**OBJECTIVES:** Depression symptoms in medically ill patients are known to adversely impact treatment compliance, healthcare costs and outcomes. Thus, this study aims to compare costs of desvenlafaxine, escitalopram and duloxetine in medically ill inpatients with associated major depressive disorder (MDD) from the Brazilian public general hospital perspective. **METHODS:** A decision-tree model was built to assess costs of desvenlafaxine 50 mg/d, escitalopram 10 mg/d and duloxetine 60 mg/d to treat patients with MDD in Brazilian public hospitals. Four health states were considered: remission, dose escalation due to lack of response, switching to another antidepressant after discontinuation caused by adverse event, and treatment failure. Assessment assumed similar efficacy among alternatives due to lack of head-to-head clinical trials. Cost estimation assumed an 8-week time horizon. Relative risk of dropouts compared to placebo was obtained through literature systematic review. Since the model assumed that hospitalization are not due to MDD, only drug acquisition costs were considered in the base case. Unit costs were: 3.09BRL, 4.04BRL and 6.91BRL for desvenlafaxine, escitalopram and duloxetine, respectively. Official prices were obtained from 2010 CMED/ANVISA list. One-way sensitivity analyses were performed using drug prices and proportion of duloxetine patients requiring drug titration as key variables. **RESULTS:** Desvenlafaxine avoided 12% of estimated dropouts compared to competing alternatives. The estimated treatment costs were 144BRL, 250BRL and 364BRL per patient treated with desvenlafaxine, escitalopram and duloxetine, re-

spectively. Therefore, desvenlafaxine exhibited savings of –106BRL and –220BRL versus escitalopram and duloxetine, respectively. Within the sensitivity analyses, the lower and higher savings were observed when Brazilian public procurement prices were adopted (–82BRL versus escitalopram and –216BRL versus duloxetine). **CONCLUSIONS:** Desvenlafaxine would be a cost-saving strategy compared to escitalopram and duloxetine in medically ill inpatients treated for MDD, due its lower price and lower dropout rates as a consequence of side effects.

#### PMH43

##### ECONOMIC IMPACT OF CYP450 PHARMACOGENETIC TESTING ON DEPRESSION TREATMENT

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**OBJECTIVES:** CYP450 enzyme activities have been associated with inter-individual variability affecting efficacy and tolerability among non-psychotic major depressive disorder (MDD) patients. Pre-prescription pharmacogenetic testing helps to identify patients with increased risk for adverse reactions, lack of efficacy and increased hospitalization costs. These test results could assist doctors to prescribe alternative therapy or optimum doses. Present study is to estimate the cost effectiveness of pre-prescription pharmacogenetic testing to assess the CYP450 enzyme activity for the treatment of depression using selective serotonin reuptake inhibitors (SSRIs). **METHODS:** Markov model was developed from societal perspective to identify cost and quality adjusted life months (QALM) gained for carrying out pharmacogenetic testing compared to no test strategy. A systematic search of the literature was carried out to identify published evidence for associations between adverse events, dropout rates and the three phenotypic groups: ultrafast metabolizers, poor metabolizers and intermediate metabolizers. Potentially relevant papers were used to derive the transitional probabilities, costs and sensitivity as well as specificity of CYP450 enzyme testing technique. Multiple one-way sensitivity analyses were performed to find the robustness of the model. **RESULTS:** Projected outcomes associated with pre-prescription CYP450 testing strategy for a patient with MDD was \$4367/6.5 compared to \$5634/6.4 QALM in no test strategy. The testing strategy was found to be dominant between the above two options. The model was found to be sensitive to utility values, cost of adverse events follow up, percentage of ADR dropouts and remission rates. **CONCLUSIONS:** The study results indicate that CYP450 genotype-guided SSRI treatment for depression is potentially cost saving and leads to improved quality of life in patients. Yet the model is not robust with respect to selected clinical and economic variables. Further studies should be pursued to confirm the value of genotype-guided therapy before broadly applying in the regular clinical practice

#### PMH44

##### PHYSICAL AND MENTAL HEALTH AS IMPORTANT INPUTS INTO WAGE FUNCTION

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**OBJECTIVES:** Human capital theory posits that education, experience and health are the main contributors to the value of labor, measured as individual wage or earnings. We quantified the effects of general physical and mental health on annual wage and possible inefficiencies in reaching the wage frontier for a U.S. representative population. **METHODS:** We utilized the Medical Expenditure Panel Survey for 2000–2007 for individual economic and health measures and population estimates. General health was measured using validated instruments (SF-12 physical and mental scores). Annual wage was expressed in 2009 US dollars. Stochastic frontier regression was used to estimate the impact of physical and mental health on annual wage. The model estimated wage function and individual level inefficiency. Specifically, annual wage was modeled as a function of years of experience and educational attainment, plus physical and mental health, controlling for gender, race/ethnicity, and region. Sensitivity analyses were conducted to examine the impact of varying assumptions on the results. **RESULTS:** A one percent increase in physical health status resulted in 0.32% (0.27%–0.36%) increase of annual wage and one percent increase in mental health status resulted in 0.13% (0.09%–0.16%) increase of annual wage. The summative elasticity of these two health factors is greater than the elasticity of experience: 0.38% (0.36%–0.39%). In addition better physical and mental health are associated with higher productivity and smaller variations of inefficiency and stochastic error variance. **CONCLUSIONS:** General physical and mental health make significant contributions to human capital as reflected in wages in the U.S., as well as in expected productivity gains. Deficits in human health are estimated to leave potential productivity gains unrealized. The relative magnitude of the health effect compared to the experience effect supports larger investments in access to health care.

##### Mental Health – Patient-Reported Outcomes & Preference-Based Studies

#### PMH45

##### MEASURES OF MEDICATION ADHERENCE IN ORAL VERSUS LONG-ACTING RISPERIDONE IN TEXAS MEDICAID PATIENTS WITH SCHIZOPHRENIA

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**OBJECTIVES:** Medication adherence has been shown to be an important factor in preventing schizophrenia-related relapses, and long-acting injectable risperidone has been shown to be effective in improving medication adherence. The objective of this study was to determine the medication adherence rates of schizophrenic patients treated with either oral risperidone only (oral cohort) or long-acting injectable risperidone +/- oral risperidone (injectable cohort). **METHODS:** Texas Medicaid prescription claims data (January 2006 to December 2008) were analyzed for